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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/743,166	12/22/2003	Daniel P. Cram	108298755US	7760
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25096	7590	05/18/2005
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EXAMINER

WALLING, MEAGAN S

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/743,166	Applicant(s) CRAM, DANIEL P.	
	Examiner Meagan S. Walling	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 54-65 is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-27, 30-39, 41 and 43-53 is/are rejected.
- 7) ☒ Claim(s) 10, 11, 28, 29, 40 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/30/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-9, 12-27, and 30-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Gussman et al. (US 4,567,652).

Regarding claim 1, Gussman et al. teaches a socket (74) carried by a circuit board and having an array of leads configured to contact the array of contacts on the packaged device at a reference plane (column 6, lines 44-47); and a package handling assembly having a placement head (66) and an alignment element (102) coupled to the placement head, the placement head being moveable between a first position at which the alignment element is separated from the socket and a second position at which the alignment element is proximate to the array of leads of the socket (column 5, lines 7-12), the alignment element having an alignment portion configured to guide lateral movement of the packaged device in the reference plane relative to the array of leads (column 5, lines 43-47).

Regarding claim 2, Gussman et al. teaches a channel having projections sized and shaped to engage a perimeter of the packaged device (Ref. 72).

Regarding claim 3, Gussman et al. teaches that the alignment device has sidewalls defining an alignment aperture through which the packaged device can pass along a load/unload path, and wherein the sidewalls are configured to restrict movement of the packaged device lateral to the load/unload path (Ref. 142).

Regarding claim 4, Gussman et al. teaches that the alignment element comprises a taper chamber having inclined sidewalls that slope inwardly and downwardly (Ref. 72).

Regarding claim 5, Gussman et al. teaches that the alignment element is detachable from the placement head (column 9, lines 26-29).

Regarding claim 6, Gussman et al. teaches that the package handling assembly and the socket are moveable in at least three dimensions relative to each other (table 24 moves in the x-direction, loader head 66 moves along crossbar 68 in the y-direction, and air cylinder 112 moves in z-direction).

Regarding claim 7, Gussman et al. teaches that the package handling assembly is an automated assembly (column 1, lines 5-6).

Regarding claim 8, Gussman et al. teaches a second alignment element interchangeable with the first alignment element on the package handling device, the second alignment element having a second alignment portion configured to receive a second packaged device having a profile different than the first packaged device in a manner that guides lateral movement of the second packaged device relative to the array of leads (see abstract).

Regarding claim 9, Gussman et al. teaches a plurality of other sockets connected to the testing substrate and substantially identical to the first socket, the alignment element being positionable in the receiving areas of the plurality of other sockets (column 6, lines 44-47).

Regarding claim 12, Gussman et al. teaches a plurality of sockets (74, see abstract) arranged in a socket array, wherein individual sockets have an array of leads coupleable to the array of contacts on the packaged devices, at least one of the sockets being a first socket having a receiving area proximate to the array of leads and configured to removably receive a respective a packaged device independent of the package profile of the packaged device (column 6, lines 44-47); and a package handling assembly having a support member and a plurality of alignment elements (102) carried by the support member (66), at least one of the alignment elements being a first alignment element that is moveable with the support member as a unit relative to the first socket to be positioned in the receiving area of the first socket, the first alignment element having portions configured to restrict movement of a packaged device in at least two dimensions relative to the first socket when the packaged device is positioned in the receiving area (Ref. 142).

Regarding claim 13, Gussman et al. teaches that the first alignment element is removably connected to the support member (column 9, lines 26-29).

Regarding claim 14, Gussman et al. teaches that the first alignment element has sidewalls that define an alignment aperture corresponding to the one of the package profiles (Ref. 142).

Regarding claim 15, Gussman et al. teaches that the package handling assembly and the socket are moveable in at least three dimensions relative to each other (table 24 moves in the x-direction, loader head 66 moves along crossbar 68 in the y-direction, and air cylinder 112 moves in z-direction).

Regarding claim 16, Gussman et al. teaches that the package handling assembly is an automated assembly (column 1, lines 5-6).

Regarding claim 17, Gussman et al. teaches a socket having an array of leads configured to contact the array of contacts on the packaged device at a reference plane (column 6, lines 44-47); and a package handling assembly having a placement head (66) and an alignment element (102) coupled to the placement head, the placement head and alignment head being moveable relative to the socket, the alignment element having an aperture therethrough with internal tapered bearing surfaces (72) terminating at an opening and configured to align the array of contacts of the packaged device with the array of leads in the socket (column 5, lines 7-14 and 43-47).

Regarding claim 18, Gussman et al. teaches that the alignment element has external bearing surfaces configured to align the alignment element relative to the array of leads (Ref. 40).

Regarding claim 19, Gussman et al. teaches that the internal tapered bearing surface slope inwardly and downwardly (see Ref. 72).

Regarding claim 20, Gussman et al. teaches that the alignment element is detachable from the placement head (column 9, lines 26-29).

Regarding claim 21, Gussman et al. teaches a second alignment element interchangeable with the first alignment element on the package handling device, the second alignment element having a second alignment portion configured to receive a second packaged device having a profile different than the first packaged device in a manner that guides lateral movement of the second packaged device relative to the array of leads (see abstract).

Regarding claim 22, Gussman et al. teaches a means for testing the packaged device (column 6, lines 22-27), the means for testing having an array of engagement means for

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contacting the array of contacts on the packaged device at a reference plane (column 6, lines 44-47); and a handling means for handling packaged devices, the handling means having a placement means (66) and a means for aligning the packaged device laterally relative to the reference plane (102), the placement means being moveable between a first position at which the means for aligning is separated from the means for testing and a second position at which the means for aligning is proximate to the array of engagement means of the means for testing, the means for aligning configured to guide lateral movement of the packaged device in the reference plane relative to the array of engagement means (column 5, lines 43-47).

Regarding claim 23, Gussman et al. teaches a channel having a support means to support the packaged device, the means to support being sized and shaped to engage a perimeter portion of the packaged device (Ref. 170).

Regarding claim 24, Gussman et al. teaches that the means for aligning has bearing surfaces that allow movement of the packaged device along a load/unload path and configured to restrict movement of the packaged device lateral to the load/unload path (Ref. 142).

Regarding claim 25, Gussman et al. teaches that the means for aligning is detachable from the placement means (column 9, lines 26-29).

Regarding claim 26, Gussman et al. teaches that the handling means and the testing means are moveable in at least three dimensions relative to each other (table 24 moves in the x-direction, loader head 66 moves along crossbar 68 in the y-direction, and air cylinder 112 moves in z-direction).

Regarding claim 27, Gussman et al. teaches a socket (74) carried by a testing substrate and having an array of leads coupleable to the array of contacts and a receiving area proximate to

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the array of leads that is configured to removably receive the packaged device therein (column 6, lines 44-47);, a surface guide coupled to at least one of the socket and the packaged device, the surface guide positioned to support at least a portion of the body apart from the array of leads, with the array of contacts in alignment with the array of leads (column 12, lines 35-41); and a package handling assembly movable between a load position and a release position relative to the socket, the package handling assembly having an alignment element (102) configured to contact a perimeter edge of the packaged device in a manner that aligns the contacts with corresponding leads at the receiving area profile in at least two dimensions relative to the socket (column 5, lines 7-12 and 43-47).

Regarding claim 30, Gussman et al. teaches that the surface guide includes an aperture therein sized to receive the array of contacts independent of the package profile (column 12, lines 38-41).

Regarding claim 31, Gussman et al. teaches that the receiving area of the socket is sized to receive the packaged device therein with the array of contacts in direct alignment with the array of leads independent of the package profile of the body (column 17, lines 60-62).

Regarding claim 32, Gussman et al. teaches that the alignment element is shaped and sized to at least substantially correspond to the package profile of the body (column 17, lines 60-62).

Regarding claim 33, Gussman et al. teaches that the alignment element has sidewalls defining an alignment aperture through which the packaged device can pass along a load/unload path, and wherein sidewalls are configured to restrict movement of the packaged device lateral to the load/unload path (ref. 142).

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Regarding claim 34, Gussman et al. teaches that the package handling assembly has a support member and the alignment element is removably coupled to the support member (Ref. 170).

Regarding claim 35, Gussman et al. teaches that the alignment element comprises a tapered chamber having inclined sidewalls that slope inwardly and downwardly (Ref. 72).

Regarding claim 36, Gussman et al. teaches that the package handling assembly is an automated assembly (column 1, line 5-6).

Regarding claim 37, Gussman et al. teaches a second alignment element interchangeable with the first alignment element on the package handling device, the second alignment element having a second alignment portion configured to receive a second packaged device having a profile different than the first packaged device in a manner that guides lateral movement of the second packaged device in the reference plane relative to the array of leads (see abstract).

Regarding claim 38, Gussman et al. teaches that the socket is a first socket and further comprising a plurality of other sockets connected to the testing substrate and substantially identical to the first socket, the alignment element being positionable in the receiving areas of the plurality of other sockets (column 6, lines 44-47).

2. Claims 39, 41, and 43-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Perino et al. (US 2002/0016091).

Regarding claim 39, Perino et al. teaches a socket having an array of leads arranged to be coupleable with the first and second array of contacts, the socket having a receiving area adjacent to the array of leads and configured to removably receive the first and second packaged devices

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(paragraph 17); and a surface guide coupled to the socket and positioned to support one of the first and second packaged devices apart from the array of leads with the array of leads being in alignment with one of the first and second array of contacts (paragraph 21).

Regarding claim 41, Perino et al. teaches a package handling assembly movable relative to the socket, the package handling assembly having an alignment element positionable in the receiving area of the socket, the alignment element restricting lateral movement of the first or second package profiles in at least two dimensions relative to the socket (Ref. 410).

Regarding claim 43, Perino et al. teaches that the surface guide is removably connected to the socket (see Ref. 456).

Regarding claim 44, Perino et al. teaches that the surface guide includes an aperture sized to independently receive the first and second arrays of contacts independent of the first and second package profiles (Ref. 420).

Regarding claim 45, Perino et al. teaches that the surface guide includes at least one engagement member positioned to temporarily engage at least one of the first and second arrays of contacts during removal of the respective first or second packaged devices from the socket (Ref. 430).

Regarding claim 46, Perino et al. teaches that the receiving area of the socket is sized to independently receive the first and second packaged devices therein with the respective first and second arrays of contacts in direct alignment with the array of leads independent of the first and second package profiles (paragraph 106).

Regarding claim 47, Perino et al. teaches that the socket is a first socket and further comprising a plurality of other sockets substantially identical to the first socket (Ref. 1977 and 1978).

Regarding claim 48, Perino et al. teaches a socket having an array of leads arranged to be coupleable with the commonly arranged array of contacts, the socket having a receiving area adjacent to the array of leads and configured to removably receive the first and second packaged devices independent of the first and second package profiles (paragraph 17); and a surface guide coupled to the socket and positioned to engage a respective one of the first and second packaged devices independent of the first and second package profiles and to support the respective one of the first and second packaged devices away from the support surface with the array of leads being in direct alignment with the array of contacts of the respective one of the first and second packaged devices (paragraph 21).

Regarding claim 49, Perino et al. teaches that the surface guide is removably connected to the socket (Ref. 456).

Regarding claim 50, Perino et al. teaches that the surface guide has a retention member releasably engaging the socket and retaining the surface guide in a substantially fixed position on the socket (Ref. 430).

Regarding claim 51, Perino et al. teaches that the surface guide is integrally connected to the socket (see Ref. 456).

Regarding claim 52, Perino et al. teaches that the surface guide includes an aperture therein sized to independently receive the array of contacts of the first and second packaged devices independent of the first and second package profiles (Ref. 420).

Regarding claim 53, Perino et al. teaches that the surface guide includes at least one engagement member positioned to block at least one of the first and second packaged devices from moving laterally relative to the receiving area (Ref. 423, 424).

Allowable Subject Matter

3. Claims 10, 11, 28, 29, 40, and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of claim 10 is the inclusion of the limitation of the guide connected to the socket in the receiving area, the guide positioned to support the packaged device a fixed distance from the array of leads. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 11 is the inclusion of the limitation of a guide plate connected to the socket adjacent to the array of leads and positioned to support the packaged device a fixed distance from the array of leads. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 28 is the inclusion of the limitation that the surface guide is removably connected to the socket. It is this limitation in the

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claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 29 is the inclusion of the limitation that the surface guide is integral with a component of the socket. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 40 is the inclusion of the limitation that the array of leads are configured to contact the first or second array of contacts at a reference plane, and further comprising a package handling assembly having a placement head and an alignment element coupled to the placement head, the placement head being moveable between a first position at which the alignment element is separated from the socket and a second position at which the alignment element is proximate to the array of leads of the socket, the alignment element having an alignment portion configured to guide lateral movement of the first or second packaged devices in the reference plane relative to the array of leads. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 42 is the inclusion of the limitation of a first alignment element shaped to receive the first packaged device and being positionable in the receiving area of the socket, the first alignment element configured to guide lateral movement of the first packaged device in the reference plane relative to the array of leads; and a second alignment element shaped to receive the second packaged device and being positionable in the receiving area of the socket, the second alignment configured to guide lateral

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movement of the second packaged device in the reference plane relative to the array of leads. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

4. Claims 54-65 are allowed.

The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 54 is the inclusion of the limitation of positioning an alignment element in a socket having an array of leads couplable to the array of contacts at a reference plane; positioning the packaged device in the alignment element with the array of contacts of the packaged device in alignment with an array of leads in the socket; restricting lateral movement of the packaged device relative to the reference plane; connecting the packaged device to the socket with the array of contacts coupled to the array of leads; removing the alignment element from the socket without removing the packaged device from the socket; and testing the packaged device in the socket. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the allowance of claim 60 is the inclusion of the limitation of loading the first packaged devices in the sockets through a set of first alignment elements, the set of first aligning elements laterally aligning the first package profiles relative to respective reference planes; coupling the first arrays of contacts of the first packaged devices with arrays of leads in the sockets at the respective reference planes; removing the set of first alignment elements from the sockets without removing the first packaged devices from the sockets; testing

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the first packaged devices; removing the first packaged devices from the sockets; replacing the set of first alignment elements with a set of second alignment elements; loading the second packaged devices in the sockets through the set of second alignment elements, the set of second aligning elements laterally aligning the second package profiles relative to the respective reference planes; coupling the second arrays of contacts of the second packaged devices with the arrays of leads in the sockets at the respective reference planes; removing the set of second alignment elements from the sockets without removing the second packaged devices from the sockets; and testing the second packaged devices. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S. Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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